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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,804	01/25/2002	Hideyoshi Tsuruta	782 215	9257

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BURR & BROWN

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SYRACUSE, NY 13261-7068

EXAMINER

THOMAS, ERIC W

ART UNIT	PAPER NUMBER
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2831

DATE MAILED: 01/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/057,804	Applicant(s) TSURUTA ET AL.	
	Examiner Eric W Thomas	Art Unit 2831	<i>MW</i>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>12/5/03</u> | 6) <input type="checkbox"/> Other: _____ |

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Introduction:

The examiner acknowledges, as recommended in M.P.E.P. 707.04, the applicant's submission of the amendment dated 12/5/03. At this point, claims 1-4 have been amended. Thus, claims 1-4 are pending in the instant application.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Kitabayashi et al. (US 5,530,616).

Kitabayashi et al. disclose in fig. 1, 2, an electrostatic chuck having an insulation layer (3) including a mount plane on which a wafer is mounted, an inner electrode (4) provided in the insulation layer, and projecting portions (5) protruding from the mount plane which include contact planes that contact the wafer (W), wherein a backside gas (coolant gas) flows in a space defined by the mount plane, the projecting portions, and the wafer such that the wafer is attracted to the mount plane so as to maintain temperature uniformity of the wafer; and wherein a total area of the contact planes of the projecting portions is in the range of 5 to 10 micrometers.

Kitabayashi et al. do not expressly state that the total area of the contact planes of the projecting portions is in the range of 5 to 10 micrometers; it is an inherent feature of the clamping structure. Kitabayashi et al. disclose in col. 4 lines 48-55, the ratio of the total area of the clamping surfaces of the protrusions to the entire area of the clamping region is equal to or greater than 1 % and less than 10 %. As seen in fig. 1,2, the clamping region (2b) does not include the outer rim (2a). The inner electrode is substantially the same size as the clamping region 2b (as seen in fig. 1).

Regarding claim 2, Kitabayashi et al. disclose the diameter of each projecting portion is in a range of 1.0 mm to 2.0 mm ("at most 3.0 mm" -- includes the claimed range -- see col. 2 lines 40-50).

Regarding claim 3, Kitabayashi et al. disclose in fig. 2, the projecting portions are aligned side-by-side continuously.

Regarding claim 4, Kitabayashi et al. disclose a substrate processing apparatus wherein a predetermined process is applied to a plane of a substrate, the apparatus comprising a process chamber (as suggested in col. 1 lines 10-50) in which the predetermined process is performed; the electrostatic chuck comprising an insulation layer (3) including a mount plane on which a wafer is mounted, an inner electrode (4) provided in the insulation layer, and projecting portions (5) protruding from the mount plane which include contact planes that contact the wafer (W), wherein a backside gas (coolant gas) flows in a space defined by the mount plane, the projecting portions, and the wafer such that the wafer is attracted to the mount plane so as to maintain temperature uniformity of the wafer; and wherein a total area of the contact planes of

the projecting portions is in the range of 5 to 10 micrometers; that electrostatically attracts and holds the substrate at a predetermined position in the process chamber, and a power source (9) that electrostatically attracts the substrate to the electrostatic chuck.

Response to Arguments

3. Applicant's arguments, see pg. 10-12, filed 12/5/03, with respect to the rejection(s) of claim(s) 1-4 under Kosakai (US 6,556,414) in view of Anderson (US 6,117,246) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kitabayashi et al.

Conclusion

In order to ensure full consideration of any amendments, affidavits, or declaration, or other documents as evidence of patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be a final action, will be governed by the requirements of 37 CFR 1.116 which will be strictly enforced.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric W Thomas whose telephone number is (703) 305-0878. The examiner can normally be reached on Mon & Sat 9:00AM - 9:30PM; Tues-Fri 5:30PM-10:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 703-308-3682. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

ewt

A handwritten signature in black ink, appearing to read "Eric L. Hansen", with a long horizontal flourish extending to the right.